

Current Claims:

1. (Previously Presented) Structure of optically effective diffraction security elements in documents, wherein the optically effective diffraction security element is provided with target-oriented electrical encoding of data consisting of a discontinuous metallization layer and/or partially metallic conductive layers and/or zones of metallic layers in different planes.
2. (Previously Presented) Structure according to claim 1, wherein the form of the encoding resembles figures, in particular lines, grid-lines, bows and/or circles.
3. (Previously Presented) Structure according to claim 1, wherein the form of the encoding resembles orderly or randomly arranged geometric figures, in particular lines, grid-lines, bow and/or circles.
4. (Previously Presented) Structure according to claim 1, wherein a demetallized zone (3) in top elevation is of meandering form.
5. (Previously Presented) Structure according to claim 1, wherein metallized strip-like zones (7) and demetallized strip-like zones (8) are arranged alternately, whereby in top elevation the strip-like zones are extending parallel or vertically relative to the document feed direction.
6. (Previously Presented) Structure according to claim 1, wherein the distance between two zones of the same or dissimilar electrical conductivity corresponds to the shortest distance between two electrodes.
7. (Previously Presented) Structure according to claim 6, wherein the distance between two zones of the same or dissimilar electrical conductivity is at least 0.1 mm.
8. (Previously Presented) Structure according to any one of the preceding claims, wherein the metallized zones (7) are interrupted by one or more demetallized zones (9) extending vertically thereto.

9. (Previously Presented) Structure according to claim 8, wherein the optically effective diffraction security element is an OVD (1).
10. (Previously Presented) Structure according to claim 8, wherein the optically effective diffraction security element is a hologram.
11. (Previously Presented) Structure according to claim 8, wherein the optically effective diffraction security element is a kinegram.
12. (Withdrawn) Apparatus for examining documents provided with optically effective diffraction elements with a metallic reflection layer as described in claim 1, characterized by a capacitively operating scanner (4) the width of which is larger than the largest width of a document, consisting of a linear array of a plurality of electrodes disposed in side by side relationship, an electronic energization circuit and an electronic evaluation circuit for comparing the signal pattern of the document to be examined against corresponding reference signal patterns.
13. (Withdrawn) Apparatus according to claim 12, wherein a plurality of electrodes are disposed side by side and/or in several rows whereby a receiving electrode (6) or a transmitting electrode (17) extends parallel to a plurality of transmitting electrodes (5) disposed in side by side relationship or a plurality of receiving electrodes (18) disposed in side by side relationship, respectively.
14. (Withdrawn) Apparatus according to claim 12, wherein the electronic energization circuit consists of a current source, a multiplexer (10), an oscillator (11) for providing energy to the transmitting electrodes (5) and an oscillator (12) for energizing the multiplexer (10).
15. (Withdrawn) Apparatus according to claim 12, wherein the electronic evaluation circuit consists of a current source, an amplifier (13), a demodulator (14), a comparator (15), a micro-processor (16) provided with a memory as well as with filters for the suppression of extraneous and interference signals.

16. (Withdrawn) Apparatus according to any one of preceding claims 12 to 15, wherein the smallest distance between electrodes is less than 0.5 mm.
17. (Withdrawn) Apparatus according to claim 16, wherein the distance between a transmitting electrode (5) and the receiving electrode (6) is at least 0.5 mm.
18. (Withdrawn) Apparatus according to claim 16, wherein the apparatus is arranged in fast-running document processing machines.
19. (Withdrawn) Apparatus according to claim 16, wherein the apparatus is arranged in manual devices.
20. (Withdrawn) Apparatus according to claim 16, wherein the apparatus is arranged in document reading devices.
21. (Withdrawn) Apparatus according to claim 16, wherein the scanner is arranged across the entire width of the document such that visually distinctly perceptible optically effective diffraction security elements of the same electric properties on one and the same document are compared by means of a micro-processor.
22. (Withdrawn) Apparatus according to claim 16, wherein the scanner is arranged across the entire width of the document such that visually similar perceptible optically effective diffraction security elements on one and the same document are compared by means of a micro-processor.